



2015 Aquatic Sciences Meeting

Aquatic Sciences: Global And Regional Perspectives — North Meets South

22-27 February 2015 — Granada, Spain

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ABSTRACT REVIEW

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Abstract Content

Abstract Title

THE SPREADING PATTERN OF THE MEDITERRANEAN OUTFLOW WATER (MOW)
WEST OF THE STRAIT OF GIBRALTAR.

Abstract Text

Classically, the dynamics of the dense, saline MOW overflow through the strait of Gibraltar has been considered in three phases: initial descent (first 100 km), entraining gravity undercurrent and damped geostrophic flow. Recent swath bathymetry has revealed a complex seafloor morphology featuring sinuous submarine channels and sharp depth falls that may play a relevant role in the definition of the NACW-MOW interface and the MOW spreading pattern, hence questioning this classical view. In this work we analyze more than 4500 QCd CTD and 950 LADCP observations taken in the eastern Gulf of Cádiz to study the small-scale features of the MOW spreading pattern as well as the secondary circulation associated with sharp current bends. Data show that small-scale depth falls, abrupt channel turns and current-submarine mountain interaction may bring the MOW to high Rossby number situations. Most of these may also drive the flow to subcritical and enhance large amounts of mixing past the initial plunging phase, which seems non negligible as compared with tidal stirring, shear instability and double diffusion along the MOW pathway.

Abstract URL

Student Judging Preference

I am a student member and would like my

No

presentation to be judged.

Abstract Information

Presentation Preference: Oral

Primary Session Choice: 072 - Physical and biological processes associated with the exchange through Straits: The case of Gibraltar and other narrow straits.

Other Session Choice:

Other Information

Willing to serve as a session chair? No

Additional Audio/Video Requirements

I require additional equipment No

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